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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,927	10/21/2003	Kazuya Tanabe	0505-1250P	3170

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
LEUNG, KA CHUN A	

ART UNIT	PAPER NUMBER
3747	

NOTIFICATION DATE	DELIVERY MODE
09/19/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/688,927	TANABE ET AL.	
	Examiner	Art Unit	
	Ka Chun Leung	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-15 and 17-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-15 and 17-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Applicant's Request for Continued Examination (RCE) filed on 08/23/2007.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/23/2007 has been entered.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

RYU et al and POLES et al

4. Claims 1-3, 6-7, 10, 12-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al (US 6,216,660) and POLES et al (US 2001/0021363) as applied in the previous Office Action dated 04/23/2007.

5. Specifically regarding base Claims 1 and 3, the claims recite the limitation "wherein the shroud is attached to a front end of a cylinder head in a position that is forward of an outer end of an ignition plug". RYU et al discloses in embodiment of Figure 2 a shroud (69) mounted to the engine body to cover the head portion of the engine body (1) and flywheel magneto (59) and to define a cooling air passage (68). However the shroud (69) of Figure 2 does not show the shroud being attached to the front end of a cylinder head.

6. RYU et al discloses in Figure 16 an alternate embodiment with a shroud (153) mounted to the engine body (101) to cover the head portion of the engine body (101) and the flywheel magneto (144) and to define a cooling air passage (154) between the shroud and the head portion of the engine body (101) and the flywheel magneto (144). As illustrated, the shroud (153) is illustrated as being fastened to the cylinder head directly below reference numeral 107, where the left side of the engine as illustrated has been considered the "front end" of the engine. Furthermore, the shroud (153) extends beyond the ignition plug and an opening is provided to allow the ignition plug cable to pass through. Both Figure 2 and Figure 16 teach shrouds that define a cooling air passage between shroud and head portion of the engine. Thus it would have been obvious to one of ordinary skill in the art to substitute one shroud for the other in order to achieve the predictable result of providing a cooling passage between the shroud and head portion of the engine.

RYU et al, POLES et al, and KELLER

7. Claim 4, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al (US 6,216,660) in view of POLES et al (US 2001/0021363) and KELLER (US 2,635,858) as applied in the previous Office Action dated 04/23/2007.

8. Specifically regarding base Claim 4, the claim recite the limitation "wherein the shroud is attached to a front end of a cylinder head in a position that is forward of an outer end of an ignition plug". RYU et al discloses in embodiment of Figure 2 a shroud (69) mounted to the engine body to cover the head portion of the engine body (1) and flywheel magneto (59) and to define a cooling air passage (68). However the shroud (69) of Figure 2 does not show the shroud being attached to the front end of a cylinder head.

9. RYU et al discloses in Figure 16 an alternate embodiment with a shroud (153) mounted to the engine body (101) to cover the head portion of the engine body (101) and the flywheel magneto (144) and to define a cooling air passage (154) between the shroud and the head portion of the engine body (101) and the flywheel magneto (144). As illustrated, the shroud (153) is illustrated as being fastened to the cylinder head directly below reference numeral 107, where the left side of the engine as illustrated has been considered the "front end" of the engine. Furthermore, the shroud (153) extends beyond the ignition plug and an opening is provided to allow the ignition plug cable to pass through. Both Figure 2 and Figure 16 teach shrouds that define a cooling air passage between shroud and head portion of the engine. Thus it would have been obvious to one of ordinary skill in the art to substitute one shroud for the other in order

to achieve the predictable result of providing a cooling passage between the shroud and head portion of the engine.

RYU et al, POLES et al, and HOLBEN

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al (US 6,216,660) in view of POLES et al (US 2001/0021363) and HOLBEN (US 2,680,601).

11. RYU et al, as described above, discloses a hand-held type 4-cycle engine comprising of an engine body (1), a cooling blade (60) to provide air flow, an air inlet (68i), an air passage (68), a shroud (69), a cylinder block (6) with a single cylinder (9) which further includes cooling fins (10). Additionally, RYU et al discloses an outer cover (55) coupled to a head cover (26), which is separate from the shroud (69) as illustrated in Figure 2. Moreover, a centrifugal clutch (64) is attached to the cooling blade (60) forming a "cover" and the "cover" is surrounding along the perimeter by the shroud (69) forcing cooling air to enter the inlet (68i) between the clutch (64) and shroud (69). However, RYU does not disclose the use of a catalyst layer on the cooling fins for treating atmospheric pollutants. Furthermore, RYU et al is silent on how the fins are attached to the engine cylinder and does not disclose cooling fins wherein the edge of the cooling fins are provided with a plurality of cutouts.

12. POLES et al discloses a method and apparatus for treating the atmosphere by utilizing a catalyst that can treat pollutants, such as ozone, at ambient conditions "by coating a surface (e.g. motor vehicle atmosphere contacting surfaces)".

13. Thus it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the engine surfaces of RYU et al that contact ambient drawn by the fan with an ozone treating catalyst, in light of the teachings of POLES et al, in order to convert the pollutant ozone into oxygen. Specifically the cooling fins (10) of RYU et al utilizes air inducted by the cooling blade (60) to provide a cooling effect for the engine and is therefore a good candidate for the application of the above ozone treating catalyst.

14. HOLBEN discloses a cooling fin structure which "has been applied to the cylinders of an aircraft engine" comprising an inner edge which includes a plurality of tabs (20b) and recesses (22b). This arrangement allows for the installation a double fin (16) and anchoring strip (18) into the spaced annular grooves (12) of the engine cylinder barrel (10).

15. Both RYU et al and HOLBEN disclose providing cooling fins for an internal combustion engine. RYU et al is silent on how the fins are installed to the engine and further does not teach cooling fins with a plurality of cutouts at the edges. HOLBEN discloses cooling fins wherein the inner edge contains a plurality of tabs and recesses. Because both RYU et al and HOLBEN teach cooling fins on an internal combustion engine, it would have been obvious to one of ordinary skill in the art to substitute one type of cooling fin for the other in order to achieve the predictable result of providing heat transfer to cool the engine.

RYU et al, POLES et al, and WENHOLM et al

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al (US 6,216,660) and POLES et al (US 2001/0021363) as applied to Claims 1-3, 6-7, 10, 12-14 and 17 above, and further in view of WERNHOLM et al (US 6,692,551) as applied in the previous Office Action dated 04/23/2007.

RYU et al, POLES et al, and BUSCH et al

17. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al (US 6,216,660) and POLES et al (US 2001/0021363) as applied to Claims 1-3, 6-7, 10, 12-14 and 17 above, and further in view of BUSCH et al (US 2001/0052410) as applied in the previous Office Action dated 04/23/2007.

TORIYAMA et al and POLES et al

18. Claims 1-3, 6-10, 12-13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over TORIYAMA et al (US 6,218,804) in view of POLES et al (US 2001/0021363) as applied in previous Office Action dated 04/23/2007.

19. Specifically regarding base Claims 1 and 3, the claims recite the limitation "wherein the shroud is attached to a front end of a cylinder head in a position that is forward of an outer end of an ignition plug". TORIYAMA et al discloses in Figure 5 a fastener connecting the shroud to the cylinder to the left of the ignition plug. The left hand side of the engine depicted in Figure 5 has been considered as a front side or

front end of the engine. Thus the depicted fastener would be "forward of an outer end of an ignition plug" when viewed from the front side/front end.

TORIYAMA et al, POLES et al and BUSCH et al

20. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over TORIYAMA et al (US 6,218,804) and POLES et al (US 2001/0021363) as applied to Claims 1-3, 6-10, 12-13 and 17 above, and further in view of BUSCH et al (US 2001/0052410) as applied in previous Office Action dated 04/23/2007.

Response to Remarks/Arguments

21. Applicant's arguments with respect to claims 1-3, 6-7, 10, 12-14 and 17 have been considered but are moot in view of the new ground(s) of rejection. The rejections on the above claims have now been further defined from the prior Office Action to include the amended claim limitations.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ka Chun Leung whose telephone number is (571) 272-9963. The examiner can normally be reached on 7:30AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571) 272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCL
Ka Chun Leung
Examiner
Art Unit 3747

STEPHEN K. CRONIN
SUPERVISORY PATENT EXAMINER